

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
17 January 2002 (17.01.2002)

PCT

(10) International Publication Number  
**WO 02/05164 A1**

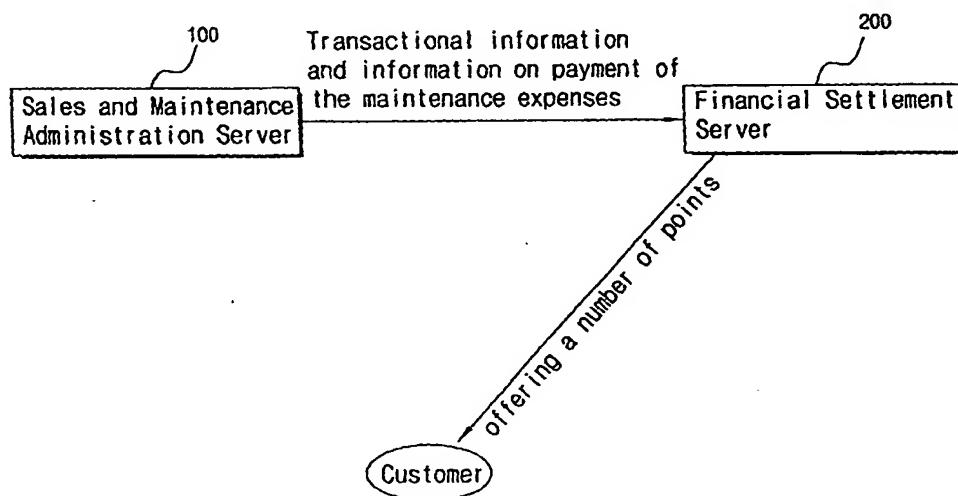
- (51) International Patent Classification<sup>7</sup>: **G06F 17/60**
- (21) International Application Number: **PCT/KR01/01070**
- (22) International Filing Date: 22 June 2001 (22.06.2001)
- (25) Filing Language: Korean
- (26) Publication Language: English
- (30) Priority Data:  
2000/39737 11 July 2000 (11.07.2000) KR  
2000/55871 22 September 2000 (22.09.2000) KR
- (71) Applicant and  
(72) Inventor: KIM, Byeong-Gug [KR/KR]; 103-106 Line-dongsan Apt., 1174-3 Chipyeong-Dong, Seo-Gu, Kwangju 502-270 (KR).
- (74) Agent: L & K PATENT FIRM; 701, Daekun Bldg., 822-5 Yeoksam-Dong, Kangnam-Gu, Seoul 135-080 (KR).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MILEAGE SETTLEMENT SYSTEM AND METHOD FOR THE SAME



**WO 02/05164 A1**



(57) Abstract: Disclosed are a financial settlement system and a method for the same. The method for financial settlement according to the invention includes the steps of offering a predetermined number of minus points corresponding to the selling price of durable goods to credit to a customer, offering a predetermined number of plus points corresponding to the maintenance expenses incurred to maintain the durable goods by the customer to offset the current credit of the customer. The method has advantages of not being bound by the period of monthly installments fixed to pay for purchased durable goods as well as of returning a predetermined number of bonus points to the customer in accordance with use of the durable goods thereby.

**MILEAGE SETTLEMENT SYSTEM AND METHOD FOR THE SAME****Technical Field**

The present invention relates to a credit card settlement system and a method therefor, and in particular, 5 to a financial settlement system that offers a consumer a predetermined number of bonus points in accordance with a consumer's use of a credit card.

**Background Art**

When purchasing durable goods, consumers generally 10 settle the payment by using an amortization system of credit cards when the amount of the payment is great. In that case, the consumers bear dual burdens of incurring maintenance expenses as well as the price of the purchased goods.

15 Moreover, the installments and maintenance expenses include fees for using the amortization system, thereby increasing the consumers' burden.

For instance, a consumer who has purchased a mobile communication terminal by means of a credit card is 20 supposed to pay a mobile communication service fee in addition to an installment for the mobile communication terminal itself once every month.

Likewise, a consumer who has purchased an automobile by means of a credit card is supposed to pay maintenance

expenses incurred to maintain the automobile such as gasoline consumption, in addition to installments to pay for the automobile itself.

The financial settlement system adopting the  
5 conventional concept of offering a consumer bonus points is inefficient because of separate applications of the bonus points to purchase of the durable goods and to maintenance expenses incurred to maintain the durable goods on an independent basis.

10 Under these circumstances, there has been a need to present a new financial settlement model that can reduce a consumer's burden by integrating the independently applicable bonus points.

#### Disclosure of Invention

15 It is, therefore, an object of the present invention to provide a financial settlement system and a method therefor that can effectively lessen or release the consumer's burden of paying an initial installment for the purchased durable goods.

20 To achieve the above object, there is provided a method for financial settlement comprising the steps of: offering a consumer a predetermined number of minus points corresponding to a selling price of durable goods to provide a credit to the consumer; and offering the consumer  
25 a predetermined number of plus points corresponding to

maintenance expenses incurred for the maintenance of durable goods by the consumer to offset the current credit of the consumer.

The concept of "minus point" means supplying durable 5 goods to a consumer free of charge or at a reduced price, and allowing the consumer to offset the credit over a long term by offering the consumer a predetermined number of minus points corresponding to the price of the durable goods.

10 On the other hand, the concept of "plus point" means offering the consumer a predetermined number of plus points corresponding to maintenance fees incurred for the durable goods such as paying fees for using communication services or gasoline supply services so that the consumer can offset 15 the credit.

#### Brief Description of Drawings

The above object and other objects, features and advantages of the present invention will become more apparent from the following detailed description when taken 20 in conjunction with the accompanying drawings, in which:

Fig. 1 is a schematic diagram illustrating a financial settlement system according to the present invention;

Fig. 2 is a block diagram illustrating the financial 25 settlement system according to an embodiment of the present

invention;

Fig. 3 is a block diagram illustrating the financial settlement system according to another embodiment of the present invention;

5 Fig. 4 is a flow chart illustrating a method for financial settlement according to an embodiment of the present invention;

Fig. 5 is a block diagram illustrating an embodiment of the present invention applied to a mobile communication  
10 service; and

Fig. 6 is a block diagram illustrating an embodiment of the present invention applied to a gasoline supply service for an automobile.

#### Best Modes for Carrying out the Invention

15 Preferred embodiments of the present invention will be described herein below with reference to the accompanying drawings. In the following description, well-known functions or constructions are not described in detail since they would obscure the invention in  
20 unnecessary detail.

Fig. 1 is a schematic diagram illustrating a financial settlement system according to the present invention. As shown in Fig. 1, the subjects who use the present invention comprise a manufacturing company, a  
25 selling company, a financial services company, a service

provider, and a customer.

The following description will be made under an assumption that the financial settlement system is jointly established by the manufacturing company, the selling company, the financial services company, and the service provider.

The manufacturer sells to the selling company durable goods, for which maintenance expenses are incurred. Meanwhile, the selling company pays the price for the purchased durable goods to the financial services company. The financial services company then pays the price for the durable goods to the manufacturing company.

Here, the maintenance expenses refer to the service fees or a purchasing price, while the durable goods refers to the goods, for which the maintenance expenses are incurred.

The customer requests a purchase of durable goods from the selling company.

The selling company supplies the durable goods to the customer in accordance with the customer's request, and stores information as identified in the request for purchase, such as selling price of the durable goods and information on the customer, as a database. The selling company then transmits to the financial services company transactional information including the selling price, information on the customer and the selling company.

The financial services company searches the database to check whether or not any subscriber identical to the customer as identified in the transactional information transmitted by the selling company has been registered. In 5 the negative, the financial services company issues the customer a credit card adopting a financial settlement system.

The financial services company then offers the customer, as identified in the transactional information, a 10 predetermined number of minus points corresponding to the price of the durable goods supplied to the customer by the selling company.

The customer then uses a service related to the durable goods, which has been supplied by the selling 15 company, from the service provider, and pays the maintenance expenses for the service. The service provider then transmits information on the customer's payment of the maintenance expenses to the financial services company, which subsequently offers the customer a predetermined 20 number of plus points in accordance with the maintenance expenses as identified in the information on payment.

Here, the manufacturing company may be identical to the selling company or the service provider.

The minus point credited to the customer in 25 accordance with the customer's purchase of the durable goods is switched to a plus point with the lapse of time as

the customer uses the services related to the purchased goods. Thus, the customer can completely offset the initial credit against the price of the purchased durable goods in accordance with use of the related services 5 thereby.

Fig. 2 is a block diagram illustrating a financial settlement system according to an embodiment of the present invention. Fig. 2 shows the case when the selling company is identical to the service provider.

10 As shown in Fig. 2, the financial settlement system according to an embodiment of the present invention includes a sales and maintenance administration server 100 for transmitting to a financial settlement server 200 transactional information on a selling price, a selling 15 company and a customer, and information on a payment of maintenance expenses incurred by a customer for the durable goods. The financial settlement server 200 is also included in the financial settlement system. The financial settlement server 200 offers the customer a predetermined 20 number of minus points in response to the transactional information transmitted by the sales and maintenance administration server 100, and a predetermined number of plus points in response to the information on payment of the maintenance expenses so as to offset the current credit 25 of the customer.

The sales and maintenance administration server 100

is provided by the selling company, which is the service provider, while the financial settlement server 200 is provided by the financial services company.

According to this embodiment, the service provider  
5 (which is the selling company) supplies durable goods purchased from the manufacturing company to the customer, and transmits transactional information including information on the selling price, the selling company and the customer to the financial settlement server 200 of the  
10 financial services company by using communication means of the sales and maintenance administration server 100 thereof.

The financial settlement server 200 then offers the customer a predetermined number of minus points in  
15 accordance with the selling price included in the transactional information as received so as to offset the current credit of the customer.

If any maintenance expenses are incurred with respect to the durable goods purchased by the customer, the sales  
20 and maintenance administration server 100 transmits information on payment of the maintenance expenses of the customer to the financial settlement server 200.

The financial settlement server 200 subsequently offers the customer a predetermined number of plus points  
25 in accordance with the maintenance expenses as identified in the received information on payment of the maintenance

expenses so as to offset the current credit of the customer.

Fig. 3 is a block diagram illustrating the financial settlement system according to another embodiment of the present invention. Fig. 3 shows the case when the selling company is different from the service provider.

As shown in Fig. 3, the financial settlement system according to another embodiment of the present invention includes a sales server 100a for transmitting transactional information including the selling price, the selling company and the customer to a financial settlement server 200, and a maintenance administration server 100b for transmitting information on payment of the maintenance expenses by the customer with respect to the sold durable goods to the financial settlement server 200. The financial settlement server 200 is also included in the financial settlement system. The financial settlement server 200 offers the customer a predetermined number of plus points in accordance with the information on payment of the maintenance expenses so as to offset the current credit of the customer.

Here, the sales server 100a is provided by the selling company, while the maintenance administration server 100b is provided by the service provider. The financial settlement server 200 is provided by the financial services company.

According to this embodiment, the selling company supplies the durable goods purchased from the manufacturing company to the customer, and transmits transactional information including the selling price, the selling company and the customer to the financial settlement server 200 of the financial services company by using communication means of the sales server 100a thereof.

The financial settlement server 200 subsequently offers the customer a predetermined number of minus points in accordance with the selling price, as identified in the received transactional information, so as to offset the current credit of the customer.

If any maintenance expenses are incurred with respect to the durable goods purchased by the customer, the maintenance administration server 100b of the service provider transmits the information on the customer's payment of the maintenance expenses to the financial settlement server 200.

The financial settlement server 200 then offers the customer a predetermined number of plus points in accordance with the maintenance expenses, as identified in the received information on the customer's payment of the maintenance expenses, so as to offset the current credit of the customer.

Fig. 4 is a flow chart illustrating a method for financial settlement according to an embodiment of the

present invention. The method for financial settlement according to an embodiment of the present invention comprises: a purchasing step S100 for purchasing durable goods from a manufacturing company by a selling company  
5 which makes payment for the purchased goods to the manufacturing company through a financial services company; a purchase request receiving step S110 for receiving information on a request for purchase of the durable goods from the customer by the selling company; a durable goods  
10 supplying step S120 for supplying the durable goods to the customer in accordance with the information on a request for purchase as received in the purchase request receiving step S110; a transactional information receiving step S130 for receiving transactional information including  
15 information on the selling price, the selling company and the customer with respect to the durable goods by a financial settlement server; a crediting step S140 for crediting the customer's account by offering the customer a predetermined number of minus points from the financial  
20 settlement server in accordance with the selling price as identified in the transactional information; a maintenance expense payment information receiving step S150 for receiving information on payment of the maintenance expenses with respect to the durable goods by the financial  
25 settlement server; and an offsetting step S160 for offsetting the current credit of the customer by offering a

predetermined number of plus points from the financial settlement server in accordance with the maintenance expenses as identified in the information on payment of the maintenance expenses.

5 To be specific, the selling company purchases the durable goods from the manufacturing company, and pays for the purchased goods. Upon receipt of a request for purchase of the durable goods from the customer, the selling company supplies the durable goods to the customer.

10 The financial settlement server of the financial services company receives the transactional information including information on the selling price of the durable goods, the selling company and the customer, and offers the customer, as identified in the transactional information, a  
15 predetermined number of minus points in accordance with the selling price so as to provide a credit to the customer.

Meanwhile, if any maintenance expenses have been incurred with respect to the purchased durable goods, the financial settlement server receives information on the  
20 customer's payment of the maintenance expenses for the durable goods, and offers the customer a predetermined number of plus points in accordance with the maintenance expenses, as identified in the information on the payment of the maintenance expenses, so as to offset the current  
25 credit of the customer.

By taking the above steps, the minus point offered to

the customer in accordance with the purchase of the durable goods is switched to a plus point in accordance with use of the services related to the durable goods by the customer with the lapse of time. Thus, the customer  
5 can completely offset the initial credit of the purchased durable goods in accordance with use of the services.

Fig. 5 is a block diagram illustrating an embodiment of the present invention applied to a mobile communication service. Referring to Fig. 5, the manufacturing company of  
10 a personal communication service (PCS) terminal sells a PCS terminal to a PCS shop. The PCS shop makes payment for the purchased PCS terminal to a financial services company, which subsequently makes payment for the sold PCS terminal to the PCS terminal manufacturing company.

15       The customer files an application for subscription to a mobile communication service with the PCS shop. In accordance with the subscription application by the customer, the PCS shop supplies a PCS terminal to the customer free of charge, and stores information on the  
20 selling price and the customer, as identified in the application for subscription by the customer, as a database. The shop then transmits the transactional information including the selling price, the customer and the selling company to the financial services company,  
25 while transmitting the subscription information of the customer to the PCS service provider.

The financial services company offers the customer, as identified in the transactional information, a predetermined number of minus points corresponding to the price of the PCS terminal supplied to the customer free of charge by the PCS shop.

5 The customer receives mobile communication services from the PCS service provider, and pays a fee for using the services.

10 The PCS service provider then transmits the information on the customer's payment of the service fee to the financial services company.

15 The financial services company offers the customer a predetermined number of plus points corresponding to the service fee as identified in the information on the customer's payment of the service fee.

Through this process, the minus point initially credited to the customer in accordance with the purchase of the PCS terminal is switched to a plus point with the lapse of time in accordance with use of mobile communication services by the customer. As a result, the customer can completely offset the price of the PCS terminal, which was supplied to the customer free of charge, in accordance with use of the mobile communication services.

20 Fig. 6 is a block diagram illustrating an embodiment of the present invention applied to a gasoline supply to an automobile. Referring to Fig. 6, the automobile

manufacturing company sells an automobile to an automobile shop, which pays the price of the automobile to the financial services company. The financial services company then pays the price for the sold automobile to the  
5 automobile manufacturing company.

A customer requests a purchase of an automobile from the automobile shop.

The automobile shop then sells the automobile to the customer in accordance with the customer's request, and  
10 stores information on the selling price and the customer, as identified in the information on the request for purchase of the automobile, as a database. The automobile shop subsequently transmits to the financial services company the transactional information including the selling  
15 price, the customer and the seller.

The financial services company offers the customer, as identified in the transactional information, a predetermined number of minus points corresponding to a predetermined price of the automobile sold to the customer  
20 by the automobile shop.

The customer subsequently receives a gasoline supply service from the gasoline station, and pays a fee for using the gasoline supply service.

The gasoline station transmits the information on the  
25 customer's payment for the gasoline supply service to the financial services company.

The financial services company offers the customer a predetermined number of plus points corresponding to the gasoline supply service fee as identified in the received information on the customer's payment for the gasoline  
5 supply service fee.

As a consequence, the minus point initially credited to the customer in accordance with the purchase of the automobile is switched to a plus point with the lapse of time in accordance with use of the gasoline supply services  
10 by the customer. The customer therefore can offset a partial credit against the automobile price in accordance with use of the gasoline supply services.

#### Industrial Applicability

As described above, the present invention has  
15 advantageous effects of improving the distribution process of durable goods as well as of creating a new structure of consumption and distribution that can lessen a burden of the customer by presenting a new settlement model offering a predetermined number of minus points corresponding to the  
20 selling price of durable goods to provide a credit to the customer, and offering a predetermined number of plus points corresponding to the maintenance expenses of the durable goods incurred by the customer to offset the current credit of the customer by returning a predetermined  
25 number of bonus points to the customer in accordance with

use of the durable goods, thereby effectively lessening or removing the customer's burden of fully bearing an initial cost for purchasing the durable goods.

While the invention has been shown and described with reference to certain embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the invention as defined by the appended claims.

10

What Is Claimed Is:

1. A financial settlement system realized in a computer, comprising:
  - a sales server, if a transaction of durable goods is established with a customer, for transmitting to a financial settlement server transactional information including the selling price of the durable goods and personal information of the customer;
  - 10 a maintenance administration server for transmitting to the financial settlement server information on payment of the maintenance expenses by the customer with respect to the durable goods in accordance with use of the durable goods; and
  - 15 the financial settlement server for calculating a number of minus points corresponding to the selling price of the durable goods based on the transactional information received from the sales server, storing the calculated number of minus points and the transactional information on the customer as a database, calculating a number of plus points based on the information on payment of the maintenance expenses as received from the maintenance and administration server, updating the database by offsetting the current number of minus points of the customer by the calculated number of plus points, and notifying the customer of the currently offset minus points.

2. A financial settlement system realized in a computer, comprising:

at least one sales and maintenance administration server, if a transaction of durable goods is established  
5 with a customer, for transmitting to a financial settlement server transactional information including the selling price and personal information of the customer, and transmitting to the financial settlement server information on payment of maintenance expenses incurred by the customer  
10 with respect to the durable goods in accordance with use of the durable goods; and

the financial settlement server for calculating a number of minus points corresponding to the selling price of the durable goods based on the transactional information  
15 received from the sales server, storing the calculated number of minus points and the transactional information on the customer as a database, calculating a number of plus points based on the information on payment of the maintenance expenses as received from the maintenance and  
20 administration server, updating the database by offsetting the current number of minus points of the customer by the calculated number of plus points, and notifying the customer of the currently offset minus points.

3. A method for financial settlement realizable in  
25 a computer to process purchase of durable goods from a

selling company by a customer and payment of maintenance expenses for the durable goods to a service provider, the method comprising the steps of:

receiving transactional information including  
5 personal information on the customer who purchased the durable goods from the selling company and the selling price;

calculating a number of minus points corresponding to the selling price of the durable goods;

10 storing the calculated number of minus points and the transactional information on the customer as a database;

receiving information on payment of maintenance expenses by the customer from the service provider;

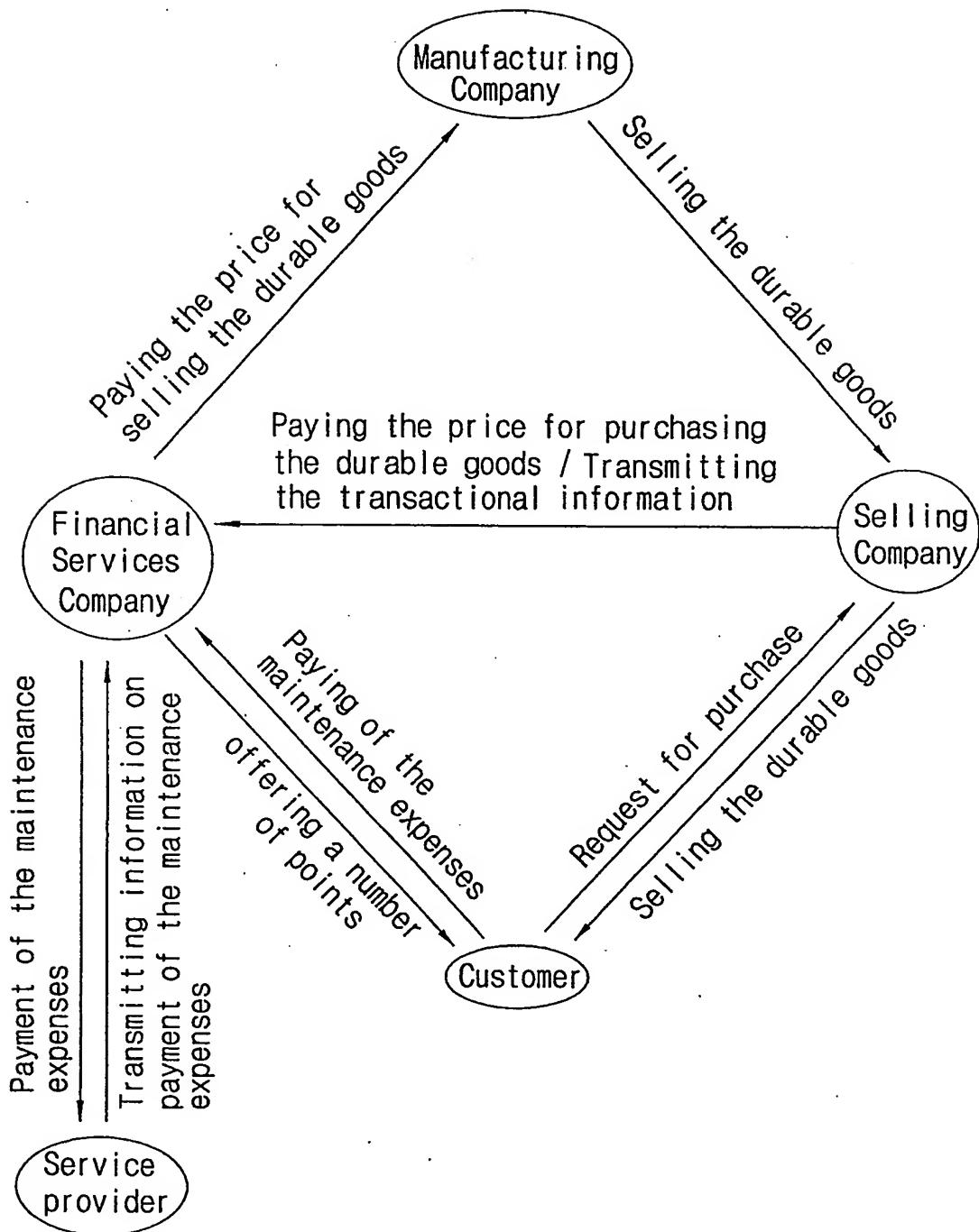
calculating a number of plus points based on the  
15 maintenance expenses as paid by the customer;

updating the database by offsetting the calculated number of minus points by the calculated number of plus points of the customer; and

notifying the customer of the currently offset minus  
20 points.

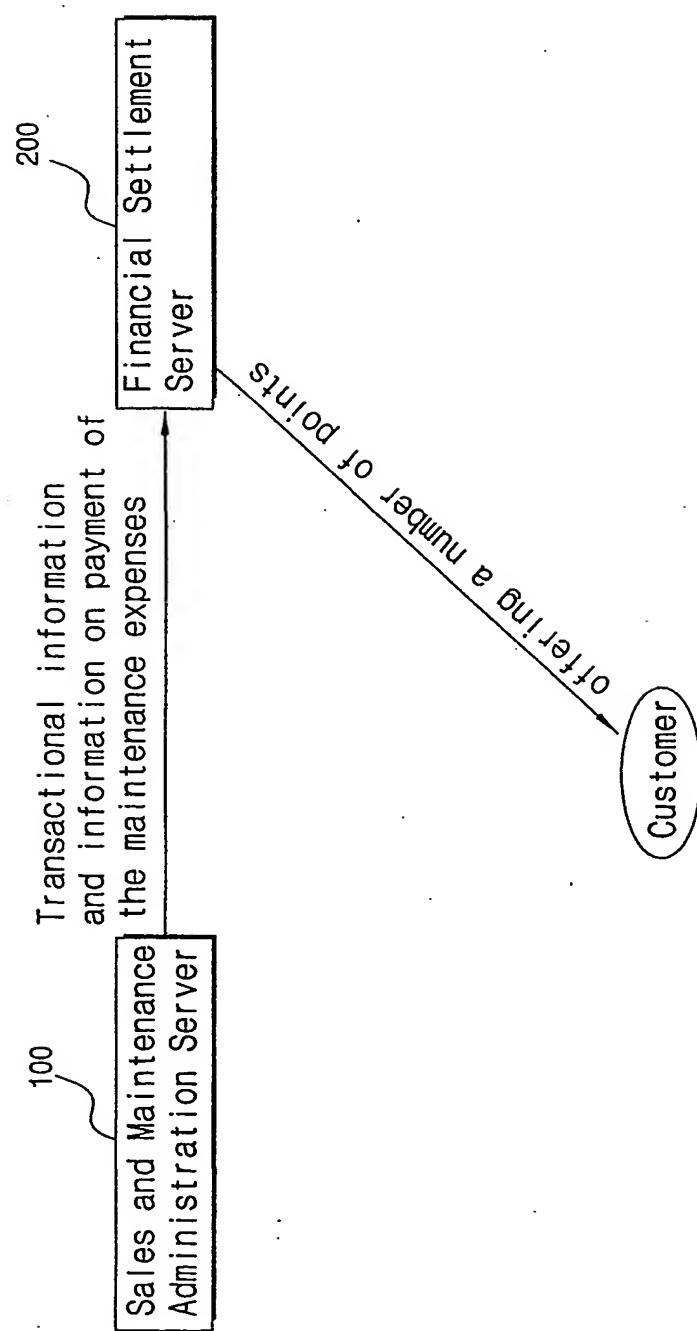
1/6

FIG. 1



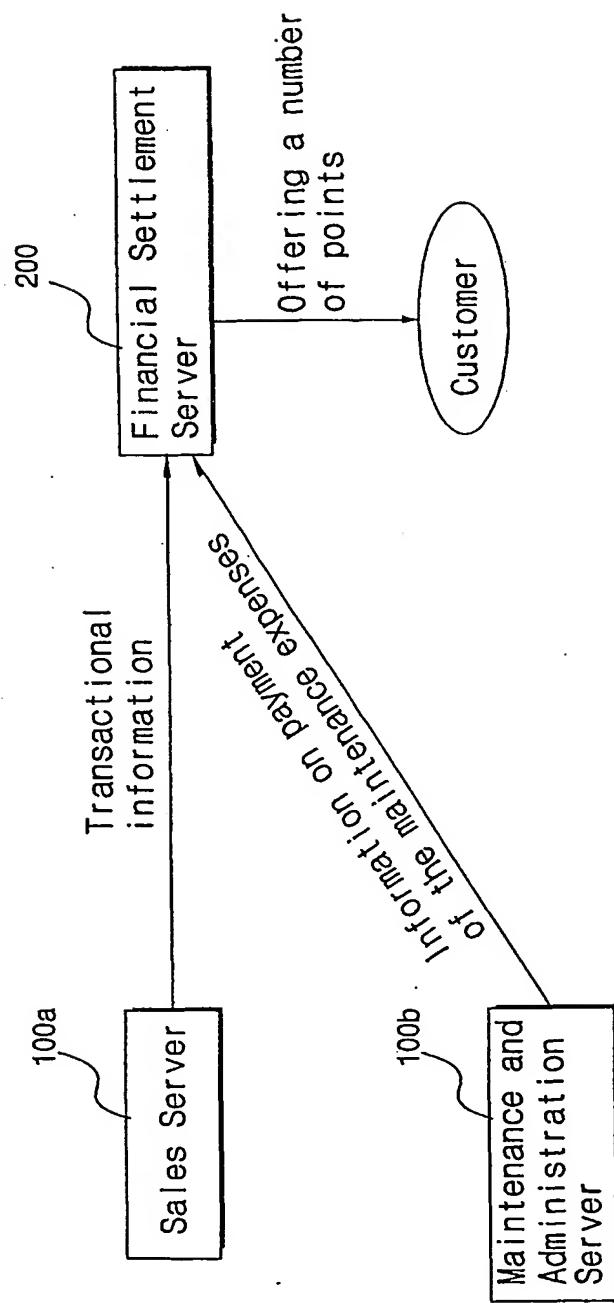
2/6

FIG.2



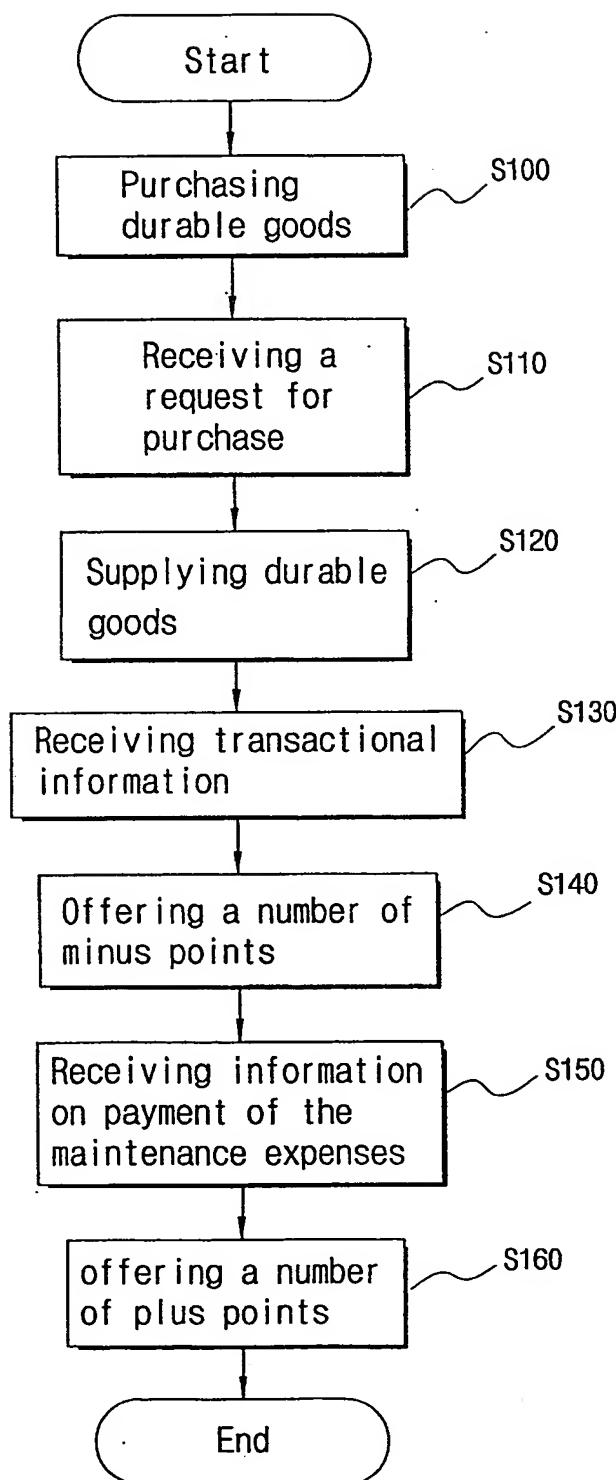
3/6

FIG.3



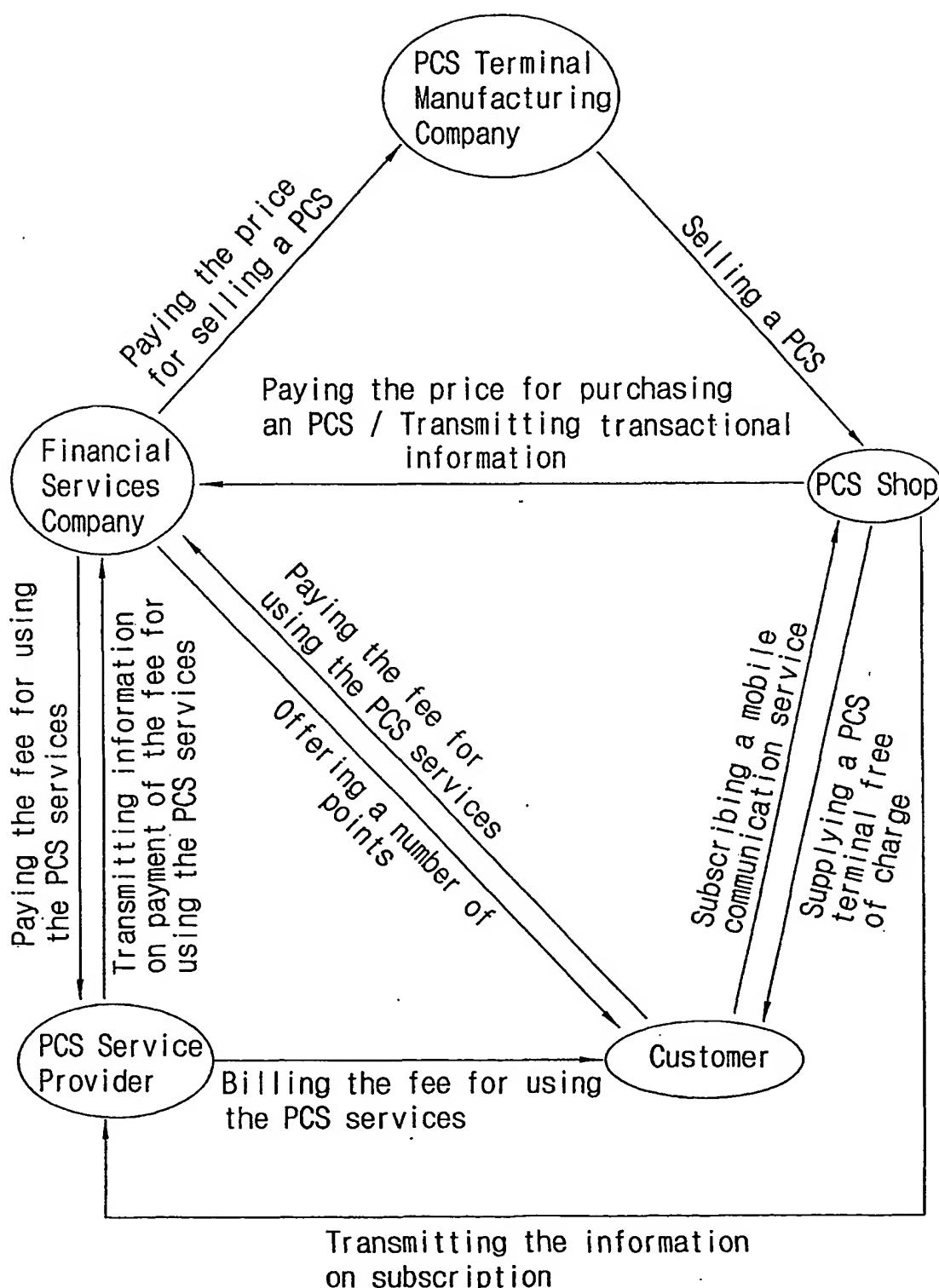
4/6

FIG.4



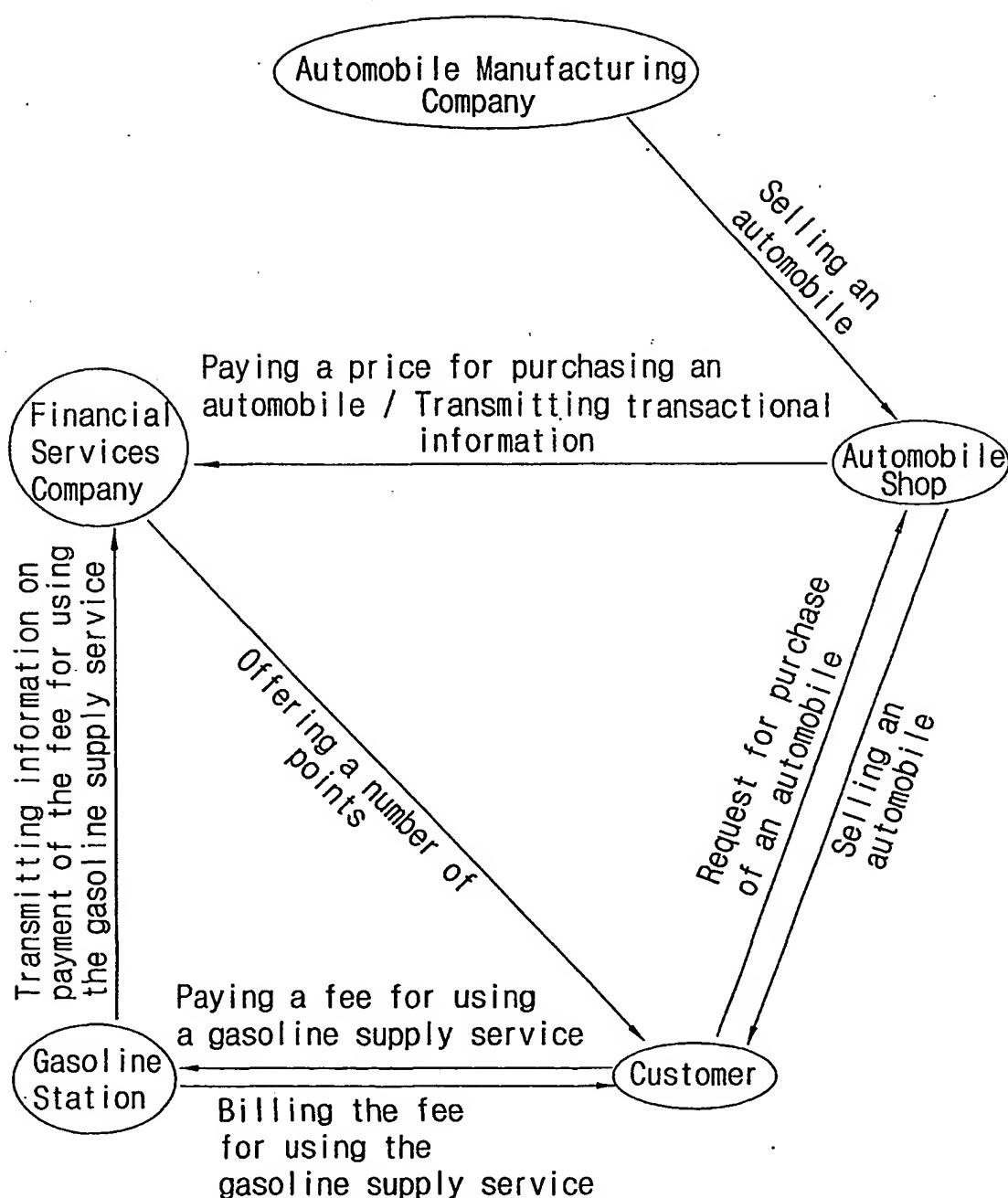
5/6

FIG.5



6/6

FIG.6



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR01/01070

**A. CLASSIFICATION OF SUBJECT MATTER****IPC7 G06F 17/60**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC7 G06F17/60, G06F15/21, A63F7/02

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean patents and applications for inventions since 1975

Korean Utility models and applications for utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, PAJ, IEEE/IEE Electronic Library(since 1988) "MILEAGE", "SETTLEMENT"

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                  | Relevant to claim No. |
|-----------|---|-----------------------|
| A         | JP10-162026 A (GLORY LTD.) 19 JUNE 1998<br>See Abstract; Figures                                    | 1-3                   |
| A         | JP11-353359 A (ORIENT CORP.) 21 DEC 1999<br>See Abstract; Figures                                   | 1-3                   |
| Y         | KR00-0006725 A (Hwang-Jin JANG etc.) 07 FEB 2000<br>See Page 3, Line 20 - Page 4 Line 26 ; Abstract | 1-3                   |
| Y         | KR00-0012703 A (Hwang-Jin JANG etc.) 06 MAR 2000<br>See Page 3, Line 24 - Page 5 Line 3 ; Abstract  | 1-3                   |

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

08 OCTOBER 2001 (08.10.2001)

Date of mailing of the international search report

09 OCTOBER 2001 (09.10.2001)

Name and mailing address of the ISA/KR  
Korean Intellectual Property Office

Authorized officer

KIM, Jun Hak

Facsimile No.

Telephone No. 82-42-481-5785

